

as *Quinqueloculina agglutinans*, *Polystomella striato-punctata*, *Nonionina depressula*, *Rotalia Beccarii*, *Trochammina inflata* (abundant), and *Globigerina bulloides* (one specimen). These often present modified shell-structure, and are evidently the remnants of sea-born families, left to struggle with the adverse influence of fresh water, herein reminding us of the marine Crustacea found in fresh-water lakes in Norway, and of other like instances.

Mr. G. S. Brady supplies a suggestive paper on Naturalists' Field-Clubs and their objects, giving some statistics as to half-a-dozen of the best, comparing some of the different methods of research adopted, and concluding with a well-urged plea against the destruction of small birds by the farmer, even for his own sake, and against the extermination of rare plants by curiosity-hunting botanists, for science-sake. Very valuable papers and notes on meteorology (Mr. Atkinson), flowering-time of plants (Mr. G. S. Brady), entomology (Mr. Bold), &c., complete this rich volume of natural-history facts collected by the men of Northumberland and Durham.

PROCEEDINGS OF LEARNED SOCIETIES.

ZOOLOGICAL SOCIETY.

May 9, 1865.—Dr. J. E. Gray, F.R.S., in the Chair.

DESCRIPTION OF A NEW GENUS OF TRICHIUROID FISHES OBTAINED AT MADEIRA, WITH REMARKS ON THE GENUS *DICROTUS*, GÜNTHER, AND ON SOME ALLIED GENERA OF TRICHIURIDÆ. BY JAMES YATE JOHNSON, CORR. MEM. Z. S.

Order ACANTHOPTERYGII.

Fam. TRICHIURIDÆ.

NEALOTUS, gen. nov.

Body elongate, compressed, incompletely clothed with delicate scales. Cleft of the mouth deep. Small teeth in the jaws and on the palatine bones; none on the vomer. First dorsal fin continuous, extending to the second; finlets behind the second dorsal and anal fins. Each ventral fin represented by a single small spine. A dagger-shaped spine behind the vent. No keel on the tail. Caudal fin well developed. Seven branchiostegal rays.

This genus may be entered in the synopsis of Trichiuroid genera in the 'Catalogue of the Collection of Fishes in the British Museum' thus:—

Each ventral represented by a single spine; a dagger-shaped spine behind the vent.

NEALOTUS TRIPES, sp. n.

First D. 21. Second D. 19. P. 13. A. 18. C. 16.

The compressed body is very elongate, and has a few large deciduous simple scales of delicate structure scattered here and there on

the skin, which is faintly reticulated with oblique grooves or wrinkles, and has a steel-grey colour with a silvery lustre. The height of the body, compared with the total length, is as 1 to $9\frac{1}{2}$; whilst the length of the head, compared with the total length, is as 1 to $4\frac{1}{6}$. The black compressed head is flattened above, and is concave between the eyes, where there are four low ridges, the inner pair of which enclose an elongated diamond-shaped space. The lower jaw is longer than the upper, and each is armed with a single series of small deltoïd distant teeth. Those of the upper jaw are inserted in the pre-maxillary. In front there are seven longer teeth, which are conico-compressed, and curve slightly backwards; two of them at each side stand within the outer row of teeth. On the palatine bones there is a single row of minute teeth; whilst the vomer is unarmed. The tongue is also without teeth, and is black like the rest of the mouth and the inside of the gill-covers. A membrane with a tongue-like lobe stretches across the palate.

The diameter of the round lateral eye is contained in the head about five times, and is distant from the muzzle $1\frac{2}{3}$ of its diameter. Near the angle of the opercle are three very small flat teeth. The opercle terminates in two obtuse projections separated by a notch.

The first dorsal fin commences a little in front of the root of the pectoral fin. Its height is rather more than half the height of the body; and its length is less than half that of the fish. It rises out of a groove, and is supported by twenty-one slender spines, which are not tuberculated. The second dorsal fin commences shortly behind the termination of the first, to which it is not quite equal in point of height, and it is less than half as long. It is supported by nineteen rays, of which the first one or two are short; and it is followed by two longish finlets. The pectoral fin is inserted under the angle of the opercle; it contains thirteen rays, and equals in length the second dorsal fin. The pair of spines representing the ventral fins are inserted close together under the hinder part of the roots of the pectoral fins. Their length is about a fourth of the height of the body; and, being longitudinally grooved, each appears to consist of two or three spines fused together. The vent is a little behind the middle of the fish. Behind the vent there is a flat dagger-shaped spine, which is longitudinally grooved. Its length is less than half the greatest height of the body; but it is rather longer than the ventral spines. The anal fin commences about the length of the spine behind it, and is opposite to, but rather shorter than, the second dorsal fin. It contains eighteen rays, and is followed by two finlets, the second of which is elongated. The deeply forked caudal fin contains sixteen rays, with five or six short exterior rays on each side.

The lateral line falls obliquely from its commencement above the opercle to the middle of the length of the fish, and is then continued with a gentler obliquity along the posterior part of the body to the tail, where it has two-thirds of the height above it.

The single specimen of this fish which has occurred was obtained in the month of December, and it has been deposited in the British Museum. The fish bears a close external resemblance to the

“Coelho” of Madeira (*Thyrsites Prometheus*, Gthr. ; *Prometheus atlanticus*, Lowe). From that fish it may be distinguished by the possession of a dagger-shaped spine in front of the anal fin*, by the spines of the first dorsal fin being twenty-one in place of eighteen, by the rays of the second dorsal fin being nineteen in place of twenty-one, and by the rays of the anal fin being eighteen in place of sixteen. It may be further noticed that in the present fish the ventral spines are placed under the posterior angle of the base of the pectoral fin, instead of being inserted a little before that fin, and that the lateral line does not descend rapidly under the anterior part of the first dorsal fin, as in *Prometheus atlanticus*. With *Nesiarchus nasutus* it cannot be confounded, since the latter has perfect ventral fins and fleshy and cartilaginous prolongations of the jaws.

The dimensions of the fish which has afforded materials for this description are given in the following table:—

	inches.
Total length of fish	10
Height	$1\frac{1}{10}$
Thickness behind pectoral	$\frac{6}{10}$
Head, length	$2\frac{4}{10}$
Eye, diameter, nearly	$\frac{1}{2}$
Teeth, length of largest	$\frac{1}{5}$
First dorsal, distance from muzzle	2
First dorsal, length	$4\frac{1}{8}$
First dorsal, height in front	$\frac{6}{10}$
Second dorsal, length	$1\frac{3}{10}$
Second dorsal, height	$\frac{6}{10}$
Pectoral, distance from tip of lower jaw	$2\frac{3}{10}$
Pectoral, length	$1\frac{3}{10}$
Ventral spines, length	$\frac{1}{4}$
Ventral spines, distance from tip of lower jaw	$2\frac{4}{10}$
Spine in front of anal, length	$\frac{7}{20}$
Anal, length	$1\frac{1}{10}$
Anal, height in front	$\frac{7}{10}$
Caudal, length	$1\frac{1}{2}$

The family of *Trichiuridæ* is composed, according to Dr. Günther's Catalogue, of the genera *Aphanopus*, *Lepidopus*, *Trichiurus*, *Epinula*, *Dicrotus*, *Thyrsites*, and *Gempylus*. To these have to be added the recently described genera *Nesiarchus* and *Nealotus*. With respect to *Dicrotus*, Günther, a genus founded on a small fish only $2\frac{1}{2}$ inches in length, it appears to me that it ought to be abolished, the fish having been most probably a young individual of some species of *Thyrsites* or *Gempylus*—an opinion which has been entertained by Dr. Günther himself for some time. From *Thyrsites Prometheus*, for example, it would seem to differ only by the absence of finlets and the presence of minute teeth on the vomer. But finlets are not

* *Aphanopus carbo*, Lowe, and *Nesiarchus nasutus*, a fish described by me in the Society's 'Proceedings' for 1862, p. 173, pl. xxii., have a similar spine between the vent and the anal fin.

developed in very young fishes, such as *Dicrotus armatus* probably was; and teeth are apt to disappear from the vomer when fishes acquire their full growth. It may be mentioned in confirmation of this view, that I obtained a scaleless fish, not quite six inches in length, which had its ventrals reduced to single spines, had teeth on both palatines and the vomer, and had the last four or five rays of the second dorsal fin distant from, and unconnected by membrane with, the rest of the fin; whilst the last two or three rays of the anal fin were separated from the anterior portion. This was therefore a *Dicrotus* with imperfectly formed finlets, showing a closer approach to a fully developed *Prometheus atlanticus* than *D. armatus*.

After attentively considering the descriptions of the species placed by Dr. Günther under the genus *Thyrsites* (Brit. Mus. Cat. ii. 350), as well as some of the fishes themselves, it appears to me that a more satisfactory arrangement would be to distribute the species amongst three genera, thus:—

1. **THYRSITES.** Fishes having teeth on the palatines, perfect ventrals, finlets, and a skin naked or furnished with simple scales.

T. Atun, C. & V., and *T. lepidopoides*, C. & V.

2. **RUVETTUS.** Includes a single very distinct species, remarkable for having a keeled abdomen, and the skin everywhere furnished with bony bodies, each bearing several spines—possessing also teeth on the palatines, perfect ventrals, and finlets.

R. pretiosus, Cocco.

3. **PROMETHEUS.** Distinguished by having each ventral reduced to a single spine, as well as by having teeth on the palatines, finlets, and a skin either naked or furnished with simple scales.

P. atlanticus, Lowe; *P. Solandri*, C. & V.; *P. prometheoides*, Bleek.

The genus *Gempylus* is distinguished from all these by the absence of teeth from the palatines.

To return for a moment to *Ruvettus pretiosus* (“ce curieux, ce précieux poisson,”—*Valenciennes*), the “Escolar” of Madeiran fishermen, it may be noted that, although one of the characters given in the ‘British Museum Catalogue’ is the want of a lateral line, this line may be made out in fishes fresh from the sea. It commences on a level with the upper border of the opercle, but at some distance behind it, and then descends gently until it arrives at the middle of the height of the fish, which position it keeps on the posterior half of the body.

May 23, 1865.—John Gould, Esq., F.R.S., in the Chair.

NOTICE OF A NEW SPECIES OF AUSTRALIAN SPERM WHALE
(*CATODON KREFFTII*) IN THE SYDNEY MUSEUM. BY JOHN
EDWARD GRAY, PH.D., F.R.S., V.P.Z.S., F.L.S., ETC.

In a letter which I lately received from Mr. Gerrard Krefft, the intelligent Secretary and Curator of the Australian Museum, he sent me some photographs (taken like those formerly sent by Mr. Henry